

BEFORE THE
Federal Communications Commission
 WASHINGTON, D.C. 20554

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 FEDERAL COMMUNICATIONS COMMISSION
 OFFICE OF THE SECRETARY

In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	ET Docket No. 98-206
Commission's Rules to Permit Operation)	RM-9147
Of NGSO FSS Systems Co-Frequency with)	RM-9245
GSO and Terrestrial Systems in the Ku-)	
Band Frequency Range)	
And)	
Amendment of the Commission's Rules)	
To Authorize Subsidiary Terrestrial Use)	
Of the 12.2.-12.7 GHz Band by Direct)	
Broadcast Satellite Licensees and Their)	
Affiliates)	

COMMENTS OF THE GLOBAL VSAT FORUM

The Global VSAT Forum ("GVF")¹ hereby submits its comments in response to the Order and Notice of Proposed Rulemaking (the "NPRM") in the above-referenced docket:

The GVF is deeply concerned by plans providing for the introduction of an NGSO-based frequency-sharing regime consisting of proposed limits that threaten to impose damaging levels

¹ The Global VSAT Forum is the international non-profit association of the VSAT industry, serving as its voice in public and private fora the world over. Its Members include Andrew, Asiasat, Belgacom, BT, Cable & Wireless/Vitacom, Channel Master, COMSAT, COMSYS, ESYS, Eutelsat, Gilat Satellite Networks, Gulsat, HOT Telecommunications, Hughes Network Systems, Hutchison Corporate Access, IBM Global Network, Intelsat, IWL Communications, Lockheed Martin Intersputnik, Loral Orion Inc., MCI-Worldcom, MTN, NEC, Netcom, Norsat International, Nortel DASA, PacAmTel, PanAmSat, Paradigm, PBI/Via Satellite magazine, Prodelin, Scientific-Atlanta, SES Astra, Signal Processors Ltd., Singapore Telecom, SNEF Groupe, Spaceline, Spacenet Inc., Stanford Telecom, STM Wireless, TeleDanmark, Telenor, Telespazio, Telstra V-Comm, Transcom, Transtel, Vertex, Viasat, and the VSAT Service Providers Association of India.

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of signal interference to millions of U.S. end users who rely upon Ku-band Fixed Satellite Services (FSS) provided via Very Small Aperture Terminal (VSAT) systems. The GVF urges that any implementation of sharing of the Ku-band spectrum allocated for use by FSS operators be compatible with the tighter limits soon to be identified by the International Telecommunication Union (ITU) process that is currently underway.

The GVF is particularly concerned that implementation of unacceptable limits would adversely affect the provision of current and future high-quality, cost-effective VSAT-based fixed satellite services to thousands of corporations and hundreds of millions of consumers throughout the U.S.

I. Continued Integrity of the Ku-band is Important to VSAT Service Provision

With respect to VSAT-based FSS earth stations currently operating in the subject band, GVF has no objection to the frequency-sharing concept, in general. However, WRC-97 designated spectrum for non-geostationary (NGSO) FSS spectrum to operate on a co-frequency basis with operational and future geostationary (GSO) FSS systems. At the WRC, the proponents of these systems insisted that the systems use limits instead of coordination "triggers" to effect coordination with GSO systems. The limits that were adopted were "provisional" and are to be studied by ITU task group JTG 4-9-11. This task group will report the outcome of its findings to CPM 1999.

The examination of the provisional limits and whether they protect GSO systems is very important in that, normally, when two satellites systems want to operate on the same frequency and serve the same area, they coordinate. This entails bilateral discussions that take months and sometimes years. These bilateral discussions result in exchanges of information regarding the operation of these two systems and eventually a proprietary agreement between the companies or government agencies that sometimes includes an ongoing collaboration between the operators.

By proposing a limit instead of a coordination trigger, the NGSO proponents are in effect requesting that every operational and planned satellite coordinate with every NGSO system that will ever operate. Completion of this complex task requires a considerable amount of time and effort. The timeframe given for this world coordination is less than two years, which is the time between WRC-97 and CPM99.

U.S. government policy is clear in that, while NGSOs will be accommodated at Ku-band, GSO satellite operators will be protected. To this end, the US put forward a study and a proposal at the last JTG 4-9-11 meeting. The study showed that the provisional limits needed to be tightened and that operation in dryer climates or at higher elevation angles exacerbates the potential for interference from NGSOs. The US proposed limits in the Ku-band, as did Canada, Intelsat, and Russia. All of the proposals were tighter than the provisional limits.

In mid-January the Federal Communications Commission ("FCC") accepted applications for Ku-band NGSO systems. Hughes Communications and Virtual Geosatellite, LLC submitted system applications in that processing round that complied with the US proposal. More importantly, in the filings, it was demonstrated that NGSO systems can be designed to protect

GSO FSS users and to meet the limits proposed by the US administration to the JTG 4-9-11.

GVF notes that, since these frequencies are relied upon in the U.S. by organizations representing billions of dollars per day in transactions and by millions of consumers, appropriate limits must be imposed to guarantee that such services are not degraded and/or a burden of additional operational costs are not required to be absorbed by FSS operators – and ultimately their end users - to offset signal interference caused by insufficient limits.

II. The Proposed Limits Will Reduce the Value of Existing Satellite Systems and Providers of Satellite Service

GVF membership is comprised of 50 leading companies – many of them U.S. based – collectively representing billions of dollars in annual revenues. These revenues are generated through the provision of a wide range of mission-critical services that play a vital contributing role in supporting the U.S. economy.

GVF members include satellite operators that own satellites in orbit and currently use the Ku-band internationally for carriage of a variety of FSS services; manufacturers of satellite earth stations of which several hundreds of thousands have been installed in the U.S.; providers of Intranet, Internet, telephony, video, and other services which are transmitted via Ku-band satellite-based VSAT networks to end users throughout the country and, indeed, the world.

The Ku-band is widely used in North America, Europe, North Asia, Australia and in other regions, where it facilitates the provision of services including but not limited to banking, stock exchanges, gas stations, offshore oil & gas concerns, paging companies, large national or regional retailers, automotive dealerships, distance learning, telemedicine, disaster recovery and key government applications such as extension of the public switched telephone network, military communications, and a host of key inter-governmental networks.

As for the latter category, the most recent example is provided by the U.S. postal service, which is in the process of implementing a VSAT network comprising more than 30,000 sites to manage its vast data-handling requirements, which have a direct bearing on the delivery of mail to the entire U.S. population. Another example of a government application is the network used by the Federal Emergency Management Administration, which relies on VSATs to support its disaster-relief efforts when floods, earthquakes, hurricanes and other natural forces render thousands of Americans homeless, without transportation and food and, potentially, injured and in need of medical attention. Likewise, the Florida Dept of Emergency Management uses a 200-site VSAT network during emergencies for voice and data communications – including 911 service - involving law-enforcement agencies, the National Weather Service, National Guard, and water management in 67 counties. And the Federal Bureau of Investigation, Pentagon, Central Intelligence Agency and other pivotal government organizations rely upon VSATs for effective communications.

The same is true of the private sector. In the automotive industry, companies like Ford and GM provide critical training programs via VSATs, so that when a product recall is initiated they can immediately notify more than 5,000 dealers and advise them of recall data, refit techniques, and other potentially life-saving procedures. The same network is also used to

efficiently coordinate provision of customer services before, during and after a sale is made. Interruption of such services would have a direct impact on automobile users across the entire country.

Likewise, Mobile Oil uses Ku-band VSATs to link more than 5,000 gas stations throughout the U.S., providing customers at the pump with reliable fuel supplies. Chevron, Exxon, and Shell Oil rely on VSATs to provide similar connectivity, as well as for oil & gas exploration on offshore platforms in the Gulf of Mexico and other petroleum-producing regions. These applications have a direct bearing on the cost and availability of fossil fuels in the U.S., which in turn impacts every almost aspect of the economy.

In the U.S., Holiday Inn coordinates its inn-keeping reservation network using a 2,000-site network, while Enterprise Rental Car links no less than 4,000 sites using Ku-band VSATs. Sherwin Williams, Walmart, Blockbuster (which has 3,000 sites throughout the nation), Auto Zone (1,500 stores linked via VSAT), and numerous other commercial enterprises – including most of the shopping malls in the U.S. - depend on such networks to cost-effectively provide services and necessities for the U.S. population. VSAT networks enable these concerns to increase inventory control efficiencies so customers can get what they want, when they want it, and customer waiting time is reduced during the credit-card verification process.

Provision of education to remote communities is another essential role played by VSAT networks. Nebraska Education, for example, relies on VSATs to deliver distance-learning services, and many of the Native American reservations in the country receive education courses via VSATs. Alaskom, meanwhile provides communications throughout the state of Alaska in places where it is impossible or impractical to lay terrestrial lines. Thus, Ku-band VSATs enable remote communities to have access to Internet and other communications.

The medical community has found Ku-band VSAT systems to be an indispensable means of providing health services. IntelliHealth, for example, provides patients in remote areas with access to the latest medical technologies and procedures which would otherwise only be available in larger urban hospitals. Drug stores like Rite Aid use VSATs for point-of-sale services throughout the nation, as well as for verification of medical data required to issue prescriptions. If VSAT services were interrupted, a pharmacist would lose his or her ability to access medical and insurance records, which could prevent or hamper administration of medicine throughout the country.

Restaurant enterprises like Carl's Junior and Cracker Barrel have turned to VSATs to cost-effectively train their national workforce in an industry where employee turnover of 300% is not uncommon. VSAT-delivered training enables these businesses to constantly maintain high health and safety standards in the food services industry, which affects millions of Americans every day.

Edward Jones, a large U.S. brokerage, provides a good example of how the financial community relies on Ku-band VSATs. The company handles billions of dollars in transactions related to stock trading for thousands of American retirement plans.

To a large extent, Ku-band is the de facto frequency standard for provision of such satellite-based services that address wide-area applications. With insufficient limits, existing operators' efforts to provide high-quality cost-effective service for mission-critical applications would be stymied. This impact would threaten reliable reception and transmission of billions of dollars per day in banking transactions. Corporate networks operated by numerous Fortune 500

companies would be threatened with interruptions of service that would equate to severe losses in revenues.

Substantial changes in satellite spectrum policy will not only impact consumers, businesses and government agencies, but risk undermining the progress of the satellite industry more broadly. The satellite industry, to a degree unmatched in almost any other service, relies on consistency in spectrum policies, as its investments are long term (10-15 years) and, in the case of space segment, generally fixed in frequency. Telecommunications customers and investors rely on the cost-effective availability of service as they make choices among competing offerings.

The GVF therefore strongly requests the Commission to require more strict limits to maintain the integrity of services that depend upon the Ku-band as it could severely impact end users, limit competition, and reduce the long-term value of many satellite systems and satellite service providers.

III. The Commission's Proposed Reallocation Will Delay Development of New Satellite Services and Increase Costs

As noted above, the GVF membership also includes satellite earth station manufacturers that are currently supplying Ku-band network systems. These systems, which have succeeded due in large part to cost-effective design, are used to deliver a wide range of Internet, Intranet, fax, voice, video and multimedia services to corporations and consumers, especially where

penetration of fiber and high-capacity wireless service is limited or impractical from an application standpoint.

Of the nearly 1 million receive-only and interactive VSAT terminals in use globally, most of the end users of such systems reside in the U.S. And all of these systems are threatened by insufficient limits that would result in unacceptable service degradation. For those end users that do not terminate service altogether, there is a distinct possibility that they will be forced to shoulder the cost of upgrades implemented to offset signal interference.

One of the NGSOs, Skybridge, has stated that they can not accommodate any change to the provisional limits adopted at WRC-97. Further, at least one NGSO has suggested that to accommodate any unavailability resulting from allowing them to operate at the provisional limits that GSO operators can modify their satellite links. Specifically it has been suggested that additional link margin and larger antennas can be purchased. This, of course, translates to increased power/capacity and cost to the satellite operator and user. SkyBridge does not suggest that they could modify the system they have proposed.

Conclusion

GVF is deeply concerned that the NGSO's frequency-sharing limits are insufficient to prevent unacceptable interference to existing Ku-band FSS operators, which will result in irreparable losses in value and service quality to existing and potential end users throughout all sectors of the U.S.

Respectfully submitted,

The Global VSAT Forum

By:


David Hartshorn, GVF General Secretary

Global VSAT Forum
Fountain Court
2 Victoria Square
Victoria Street
St. Albans, Herts. AL1 3TF
U.K.
Tel: +44 1727 884 739
Fax: +44 1727 884 839

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